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Educ I
1844
403

CHILD'S ARITHMETIC,
OR
THE ELEMENTS OF CALCULATION;

IN THE PRINCIPLE OF

PESTALOZZI'S METHOD.

AND

APPLIED TO CHILDREN BETWEEN THE AGES OF THREE
AND FIVE YEARS.

BY WILLIAM D. FOWLE,

LEADER IN THE USE OF THE PESTALOZZI METHOD.



BOSTON:

PUBLISHED BY WM. D. FOWLE & CO. DEALERS

1841.

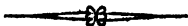


*The Life of the
Author*

A. W. Another Fox

THE
CHILD'S ARITHMETIC,
OR
THE ELEMENTS OF CALCULATION,
IN THE SPIRIT OF
PESTALOZZI'S METHOD,
FOR
THE USE OF CHILDREN BETWEEN THE AGES OF THREE
AND SEVEN YEARS.

By WILLIAM B. FOWLE,
LATE INSTRUCTOR OF THE MONITORIAL SCHOOL, BOSTON.



BOSTON:
PUBLISHED BY WM. B. FOWLE & N. CAPEN.
1844.

BE IT REMEMBERED, That on the twenty-six
1826, in the fiftieth year of the Independence of
America, WILLIAM B. FOWLE, of the said district
office the title of a book, the right whereof he claims
words following, to wit:—

“The Child’s Arithmetic, or the Elements of Cal-
culus of Pestalozzi’s Method, for the Use of Children
three and seven Years. By William B. Fowle, of the
Normal School, Boston.”

In conformity to the act of the Congress of the
United States, entitled, “An Act for the encouragement of learning
by securing the copies of maps, charts and books to the authors and
copies during the times therein mentioned;” and
also, “An Act supplementary to an act, entitled
“An Act for the encouragement of learning, by securing the copies
of maps, charts and books to the authors and proprietors of such
copies therein mentioned: and extending the benefits
of the said act to designs, engravings, and etchings historical and
scientific.”

JNO.

Clerk of the District Court.



P R E F A C E .

THE public favor shown to this little work has induced the author to stereotype it, that it may be sold as low as possible to the infant and primary schools, to whose use it is adapted. The author's school, where children entered at the earliest age, and were carried through all the branches of a useful, as well as polite education, afforded him an opportunity of personally testing the operation of the plan here adopted, not only in its immediate effect upon the infant's mind, but also in its influence upon the future progress. The idea of *pictures* was thoroughly examined, and the plan tried, before that of using *counters* was preferred. Pictures pleased the eye of his little pupils for a moment, but, being fixed and unchangeable, they soon lost the charm of novelty, and he was obliged again to resort to *counters*, which, being susceptible of endless variety and change, without taxing the infantile mind too far, give it exercise enough. The task should be made pleasant to the child, but not so much so as to render mental exertion unnecessary. Many years' experience in teaching, not only arithmetic, but every other branch, on the plan of Pestalozzi, will, the author hopes, entitle his judgment, in this particular, to a candid consideration.

B. Emerson, in his "SCHOOL AND SCHOOL"
BOSTON, June, 1844.

THE

CHILD'S ARITHMETIC.

VARIOUS articles may be used for counters, and, perhaps, the greater the variety, the more interest will be excited in the little pupils. But, as it is desirable not to confuse their ideas, only one kind of counters should be used *at first*, and the best, on some accounts, are flat pieces of wood, about an inch long and half as wide; and, as only 5 will be necessary, they may be made exactly alike; for, if the child can distinguish them, when told that the first is 1, the second 2, &c., he will think that no other can be called 1, or 2, and if you place what was called 1 in the fifth place, he will still call it 1, as he did before.

LESSON I.

Having provided the 5 counters, call the little class around you, and require them to put their hands behind them, to prevent their handling the counters unless told to do so. Then put down 1, and say, there is 1. Let each child repeat after you, 1. Then put down another, and say, there is 1 more, and 1 and 1 *more* make 2. Then take *both* up, and, putting 1 down again, ask how many you put down. If no child in the class can answer, you must say 1, and require them to repeat 1. Then put down another, saying as before, 1 and 1 more make 2. Let them repeat always. Do not proceed to the *third* counter

1*

... could be advanced
he perfectly comprehends. There is
patience on the part of the *children*,
feel perfectly acquainted with 3, th
e anxious to try a larger number.
e sure to put down but 1 at a time, an
time to put down a fourth, put down
ays requiring the class to repeat aft
1; then, putting down another, say, 1
e 2; then, putting down another, say, 1
!, and 1 more makes 3, and 1 more mak
o through the same process when yo
the fifth. Be particular to name the
ngle ones of which the number 5 is comp
lesson will require a considerable time
understood, but it is better to dwell too
oo short a time upon it. The exercise
ied by using beans, cents, blocks, fi
r counters. Indeed, it will greatly inc
rest the children take in the exerc
wooden or pewter men, such as are fou
shops, be used. These are far sunde
because their position

and 1 more makes 2. It is very important that the child be required to *touch* each counter.

Then let the next count in the same manner, till each of the class has tried, and if one miscounts, let the next correct him.

When it is evident that they can all count 2, put down 3 counters at once in a line, and let the highest put his finger upon each, saying, 1 and 1 are 2, and 1 more makes 3. Let each try as before, touching and correcting.

So put down 4, and then 5, proceeding carefully in the same manner, and continuing the exercise upon each number until you are satisfied that all the children understand it. Vary the exercise with the different sorts of counters.

III.

Put down the whole 5 in a line, previously taking care to chalk or ink as many spots as there are counters, that, when you take up any counters, the spots may assist the child to tell how many are taken up.

When the counters are laid upon the spots above mentioned, take up 1, and ask *how many are gone*. Then put it down again, and take up 2, asking how many are gone, as before. Let the child say, 2 ones, or 1 and 1, which make 2. Then put all down, and take up 3, then 4, and 5, in the same manner. To make this lesson more interesting, set up five of the pewter men, and, knocking 1 down, ask how many are down; then set him up, and knock down 2, and so on.

IV.

This lesson is the reverse of the third. Place the 5 counters on the 5 spots, and then, taking away 1, ask *how many are left*. Let the child put his finger upon each, and count as in Lesson I.

the exercise, let the children
s, and, taking up 4, 2, 1, or 3, at 1
look and see which can tell first 1
gone, and then how many are left.
the little men; knock some down
many are down, and how many stand

V.

at down 1 counter, and then another
nce. Then ask the child to put them
tell how many they make.

at down 1, and then 1 more at a c
the child to put them together and s
y they make.

en put down 1 and 3 at a distance
t at a distance, and ask the child to p
ier and count them as before. If you
an hold a part in each hand, letting t
hem out and put them together.

en put down 2 and 2 more at a dista
d as before; then 2 with 3 at a c
y until the child is familiar with eve
n that can be made with 5 -

down 1, or 3, or 5, or 2, or 4, at hazard, and ask how many times 1 are put down.

Do this with beans, cents, men, or any other objects, for the sake of variety.

VII.

Taking fifteen counters, place them thus :

*		*
* *		* *
* * *	or thus :	* * *
* * * *		* * * *
* * * * *		* * * * *

Then ask the child to tell which line contains 2, 1, 5, 3, or 4 counters. Then alter the position, and, putting 5 in the 3's place, and 4 in the 2's, ask which line contains 1, 3, 4, 2, 5.

Then point to a row, and ask how many times 1 are in it.

VIII.

1. How many fingers have you on one hand, if you count the thumb?

2. How many fingers have you on one hand, if you do not count the thumb?

3. How many thumbs have you?

4. How many thumbs and little fingers have you?

5. How many eyes should 2 little girls have?

6. How many hands will 2 little girls have?

7. How many noses will 4 girls have?

8. How many shoes will 2 little boys need?

9. How many shoes does it take to make a pair?

10. How many hands will a pair of gloves cover?

11. How many hands will 2 pair of gloves cover?

How many more legs must a bird have as many as a horse or chair?

7. If you have 1 cent, and I give you 2, how many will you have then?

8. If your father gives you 2 cents, and your mother 2 more, how many cents will you have?

9. How many legs has an andiron?

10. What animal has only 3 legs?

11. If 2 little girls meet 2 more little girls, how many will there be in all?

12. If you buy 1 apple to-day, and 4 to-morrow, how many apples will you have bought in all?

13. If you find 2 pins to-day, and 2 more to-morrow, how many pins will you have?

14. How many wings have 2 birds?

15. How many horns have 2 cows?

16. If you give 3 cents to me, and 2 to your brother, how many cents will you give away?

17. If you buy 2 apples with 1 cent, and 3 apples with another cent, how many apples will you have?

IX.

18. How many legs have 2 chairs?

and you blow out 3 of them, how many will be left burning?

6. If 1 leg of a chair be broken, how many legs will it have to stand upon?

7. If you have 5 beans, and all are red but 1, how many red beans have you?

8. If you had five beans, and dropped 2 of them, how many did not drop?

9. If 5 birds are sitting on a tree, and a naughty boy throws a stone and kills 3 of them, how many will be left alive?

10. If you have 5 little brothers, and only 4 go to school, how many do not go?

11. If your father gives you 5 cents, and tells you to keep 3 yourself, and give the rest to your brother, how many cents will you have to give him?

12. If a hen has 5 little chickens, and the rats eat up 2 of them, how many poor little chickens will be left?

X.

1. If I give 2 little boys 2 cents apiece, how many cents will both have?

2. If I give you a cent 3 times, how many cents will you have?

3. A boy bought 4 apples, and gave 1 cent apiece for them; how many cents did the 4 apples cost?

4. I have 1 nail upon each finger; how many nails should I have upon 1 hand?

5. If I had as many again eyes as I have, how many eyes should I have?

6. If I had twice as many hands as I have, how many hands should I have?

7. If you had 5 times as many tongues as you have, how many tongues would you have then to be noisy with?

1. I wish to divide 2 apples among 4 children, how many will they have apiece?
2. If I have 3 cents, and give them to 3 girls, how many cents will each have?
3. If I give 4 pins to 2 little girls, how many will each have?
4. If you have 5 cents and buy oranges that cost 5 cents apiece, how many will you have?
5. A little boy walked 5 miles in 1 day, how many miles is that in 1 day?
6. A little girl gave 4 cents for a book, how much did she give apiece for the book?
7. 4 hands must have how many fingers?
8. How many pair of tongs must be used to make 4 legs?
9. How many boxes will hold 100 cents if you put only 1 cent in each box?
10. If I give you 1 cent, and you give me 3 more, how many cents will I have?

Let the first child count 6 again, and then put down 1 more, and say, 6 times 1 and 1 more make 7. Then make each child count from 1 to 7.

Do this until every child readily counts 7, and then proceed to 8, then to 9 and 10 in the same cautious manner:

Next, go over the same course with the fingers. Let the children from the first be told that they have 5 fingers on each hand, for they will be sure not to count the thumb as a finger unless told to do so.

As far as Lesson X, the exercises can be performed with one hand; it is easy, therefore, to hold up 1 finger of the other hand, and then 2, &c, until they can count the fingers on both hands.

For variety, you may now take the little men, and, laying all flat, let the child stand them up in a line, counting them as he sets them up.

XIII.

As soon as the child can readily count from 1 to 10, put the whole 10 counters in a line, taking care, as in Lesson III, to mark spots for the counters to lie upon. Then take up 1, and ask how many are left. Then take up another, and ask the same question, and so on until all are taken up.

Next, place all 10 in a row, and, taking up 1, ask how many are left. Put the counter down again, and, taking up 2, ask how many are left. Put the 2 down, and then, taking up 3, ask the same question. So go on to 10, taking care to lay the whole 10 down before you take any up.

Do this with various counters.

XIV.

Place the 10 counters on marks, as described in

children find it very easy, you may use dots, and use only the counters. If puzzled at this, you must require them what are left, and then, holding some in your hand, let them pick out as many to make up the number 10.

XV.

down 2 counters, and ask how many times 1 are 2. Then say, 2 times 1 are how many?

down 4, and, first asking how many times 1 are 4, separate them into twos, and ask how many twos are 4 times 1.

take 6, 8, and 10, and, first asking how many times 1 are 6, separate them into twos, and ask how many twos there are.

teacher must separate the counters and, when the child understands what a *two*, that is, a *unity of two*, proceeds to XVI.

down, and how many twos? Then keep taking away 2, and asking how many ones are left, and how many twos.

XVII.

Put down 6, and ask, how many ones? how many twos? how many threes?

Put down 8, and ask, how many ones? how many twos? how many fours?

Put down 9, and ask, how many ones? how many threes?

Put down 10, and ask, how many ones? how many twos? how many fives?

XVIII.

Lay down 3, and ask, how many ones? how many twos? The child must be left to frame his own answer, but must be told finally to say, 3 ones are one 2 and 1 more.

Then ask, what part of 2 ones is one 1? Teach him to say, one 1 is a half of 2 ones.

Put down 5, and ask, how many ones? how many twos? What part of 2 ones is one 1?

Take 7, and ask, how many ones? how many twos? &c.

Then take 9, and do the same.

For further exercise in this lesson, put down the whole 10 in a heap, and say,

2 times 1	} are how many times 2?
3 times 1	
4 times 1	
5 times 1	
6 times 1	
7 times 1	
8 times 1	
9 times 1	
10 times 1	

The teacher must separate and count. He will say, make 2 and 2, or 3 and 1, or 4 and 1, or 3 and 2.

After the child seems to understand, put down 2, and ask, what two numbers will make 4? *the child separate them.*

Put down 3, and ask, what two numbers will make 3?

What two numbers will make 4?

Put down 2 and 2, ask the next if any other two numbers will make 4?

What two numbers will make 5? 6?

XX.

Put the counters all down, and say, how many more than 1?

3 are how many more than 1? than

4 are how many more than 1? than

5 are how many more than 1? 2?

XXI.

Lay the 10 counters down, and say, 1 is how many less than 2? than 3? 4? 5? 6? 7? 8? 9? 10?

2 are how many less than 3, 4, 5, 6, 7, 8, 9, 10?

3 are how many less than 4, 5, 6, 7, 8, 9, 10?

4 are how many less than 5, 6, 7, 8, 9, 10?

5 are how many less than 6, 7, 8, 9, 10?

6 are how many less than 7, 8, 9, 10?

7 are how many less than 8, 9, 10?

8 are how many less than 9, 10?

9 are how many less than 10?

Thus far the child has been assisted in every operation by the counters. He will now be prepared to do some very simple calculations *without* the aid of sensible objects, but he is not to be required to do so unless prepared for it, for the use of counters must be continued until the child is capable of imagining them to be before his eyes.

Perhaps there is no better arithmetical amusement for little children than what is commonly called *Hull-Gull*. Let the children each have a certain number of beans or other counters, and let each in turn conceal some in his hand, and ask the next on his left to guess how many are in his hand. If he guesses exactly, he has them all; if he guesses more or less than the exact number, he must pay as many as the number he guesses is more or less than the exact number held in the hand.

After this method is familiar, the game may be made more interesting by letting one hold a number of counters in his hand, and every other one guess how many he holds. The settlement which follows will soon make all of them familiar with addition and subtraction. If any one holds

XXII.

1. If you have 5 pins, and find 1 more, how many pins will you have then?
2. If you spend 4 cents to-day, and 3 cents to-morrow, how many cents will you have spent?
3. If 3 cents are given to you to-day, and 3 cents to-morrow, how many cents will you have?
4. If a bird has 2 feet, and a dog 4, how many feet will both dog and bird have?
5. 1 book is put upon a pile of 5 other books, how many books will there be then?
6. If a boy who has 6 marbles finds 3 more, how many will he have then?
7. If a cake costs 5 cents, and another 3 cents, how many cents will both cakes cost?
8. 4 birds alight upon a tree where 3 are already; how many birds will be on the tree?
9. 3 girls go to play with 4 other girls, how many girls are there together?

2. If you lose 6 pins to-day, and 2 pins to-morrow, how many will you lose on both days?

3. One man gives a poor boy 5 cents, and another man gives him 3 more cents; how many cents does the poor boy get?

4. A thimble costs 4 cents, and a doll 4 more; how many cents must a little girl have to buy the doll and thimble too?

5. A poor man has 3 sons and 5 daughters; how many children has he?

6. One hen had 2 little chickens, and another hen had 6 chickens. The hen with 2 chickens died, and her 2 little chickens went with the other hen; how many chickens had the living hen after that?

XXIV.

1. If 7 men are riding in a coach, and 2 more get in, how many will be in the coach then?

2. If 6 cents be given for a whistle, and 3 cents for a top, how many cents will the whistle and top cost?

3. A man gives 5 cents to his son and 4 cents to his daughter; they put all their cents in a heap, and how many were there?

4. A little boy was carrying a basket of apples, and 4 apples fell through a hole in the bottom of the basket, and 5 rolled over the top of the basket; how many did the little boy drop?

5. One book cost 3 cents, and another 6; how much did both books cost?

6. If you give 2 cents for some thread, and 7 cents for some needles and pins, how many cents will the whole cost?

XXV.

1. If you place 1 chair by the side of 9 chairs, how many chairs will there be?

and the don cost ?

5. A little boy spends all his 1
whistles, and gives 5 cents apiece for
much did he spend ?

6. A little boy is 4 years old ; how
e at 6 years from this time ?

7. A little boy has 3 cents, and his
cents ; how many cents have they both ?

8. If you have 2 books, and your
you 8 more, how many books will you

XXVI.

1. If you have 2 pins, and lose 1
many will you have left ?

2. If you have 6 cents, and spend
ake, how many cents will you have

3. If you have 6 cents, and give
woman, how many are left ?

4. If you let 6 beans drop, and
hem, how many will be left ?

5. If 7 books are in a pile, and you
ow many will be left ?

6. A cake and an orange together

boy, without leave, ate 5 of them; how many were not eaten?

XXVII.

1. If you have 8 cents, and give 1 for a needle, and the rest for a thimble, how much will the thimble cost?

2. If you have 8 pins, and 2 have no heads on them, how many have heads?

3. A poor boy has 8 cents; a man gave him 3 of them, and a lady the others; now, how many did the lady give him?

4. A thimble and a doll, together, cost 8 cents; if the thimble cost 4 cents, what did the doll cost?

5. A poor man had 8 children, but 5 of them died of a fever; how many are still living?

6. A man had 8 bottles of wine, but 6 of the bottles got broken; how many whole bottles were left?

XXVIII.

1. 9 persons are riding in a coach, but 2 of them get out; how many will be left?

2. A man has 9 children, and only 3 of them are girls; how many boys must there be then?

3. A boy wishes to buy a book, but it costs 9 cents, and he has only 4; how many more must he get before he can buy the book?

4. 9 apples are in a basket, and 5 of them are very rotten; how many good ones are there?

5. 2 books, together, cost 9 cents, but the largest cost 6 cents; how much did the smallest cost?

6. 9 boys are sliding on the ice, and 7 of them slip down; how many do not slip down?

XXIX.

1. 10 birds are on a tree, and all are yellow but 2; how many yellow birds are there?

2. If 10 men come into a room where there are

ow many
4. A boy bought -
f the playthings cost 5 cents,
other cost?

5. A girl is 10 years old; how old
years ago?

6. A boy and his sister have got 1
little box; the boy owns 7 of the
many does his sister own?

7. A boy owns 10 picture-books
of them to his little sister; how n
he left?

XXX.

1. If you have 2 cents, how
have if you had 3 times as man

2. How many feet have 3 m

3. How many shoes are the

4. If 1 table has 4 corners

will 2 such tables have?

How many wings shoul
have 2 cen

3. 5 pair of gloves are how many gloves?
4. 2 books cost 5 cents apiece; how many cents do both cost?
5. How many noses have 10 little girls?
6. If every little girl had as many noses as she has eyes, how many noses would 5 little girls have?
7. How many thumbs have 5 pair of mittens?
8. If 1 orange costs 3 cents, how many cents will 3 oranges cost?
9. If you can buy 3 apples for a cent, how many can you buy for 3 cents?
10. If you can buy 2 peaches for a cent, how many peaches can you buy for 5 cents?

XXXII.

1. A boy buys 3 pears for 6 cents; how many cents does he give apiece?
2. 2 oranges cost 6 cents; how many cents is that apiece?
3. A man divides 8 cents between 4 of his children; how many cents do they have apiece?
4. If you give 7 cents to 7 boys, how many cents will they have each?
5. If 3 picture-books cost 9 cents, how many cents is that apiece?
6. If I give 9 cents to 4 boys and 5 girls, how many cents will each of the boys and girls have?
7. 10 apples are equally divided between 2 children; how many will each child have?
8. How many books, at 2 cents apiece, can you buy for 10 cents?
9. How many thimbles, at 5 cents apiece, can you buy for 10 cents?
10. If I give 10 cents to 5 boys and 5 girls, how many cents will the girls and boys have apiece?

away in the box.

3. In a box there are 3 black 1 white beans, and 1 blue bean; how are in the box?

4. One book costs 3 cents, another another 2 cents; what do all 3 of the

5. Three little girls buy a doll; cents, another 3 cents, and the other 4 many cents does the doll cost?

6. If your father gives you 4 cent another 2 cents, and you had 2 before will you have in all?

7. If you have 3 cents, and your you 4 more to-day, and 2 more to-day many will you have in all?

8. If you pay 5 cents for a thimble some needles, and 1 cent for some many cents do the thimble, needles and

9. If the tongs has 2 legs, the and the chair 4, how many legs have all

XXXIV.

1. If you spend 4 cents to-day, 1 cent

4. If you find 4 pins to-day, 4 to-morrow, and 2 the next day, how many pins will you have in all?

5. If you are so careless as to lose 3 needles at home, 6 at school, and 1 in the street, how many needles have you lost?

6. 4 little boys meet 5 little boys, and they meet 1 more; now, how many little boys are together?

7. If a doll cost 3 cents, a ring 2 cents, some beads 4 cents, and an apple 1 cent, how many cents do all cost together?

8. A wheel-barrow has 1 wheel, a chaise has 2 wheels, and a carriage 4 wheels; how many wheels have all of them together?

9. How many children has a man, if 6 are living at home and 3 are away?

10. How many children has a man, if 4 are girls and 6 are boys?

11. A boy is 10 years old, how many years ago was he only 6?

12. A boy is 3 years old, in how many years will he be 10?

13. If a boy has 10 cents, and spends 2 cents a day, how many days will his money last?

14. If a man walks 5 miles in an hour, how many miles will he walk in 2 hours?

15. If a cake costs 2 cents, how many such cakes will 10 cents buy?

16. If you buy a cake for 3 cents, and give the shopman a 10 cent piece, how many cents must he give you back?

the child has not already learned to may be taught by the same method putting him to count 10. As soon acquainted with the *names* of the numbers 0, go on with the following lessons.

XXXV.

Put down 10 counters, and put down, separately, 3, 4, 5, 6, 7, 8, 9, 10, saying, each number of counters and 2, 3 (or whatever number) counters are how many counters many times 1 counter?

Put down 11 counters, and then separately 1, 2, 3, and so on, to 9, asking questions as above.

Put down 12, 13, 14, 15, 16, 17, 18, 19, till the amount is 20, and ask questions as before.

If necessary, the board on which the counters are laid may be dotted as in Lesson III, that the child may see how many are missing, by the vacant dots.

XXXVII.

Put down 19, and take up 1, asking how many are left, and how many missing?

Then take up 2, 3, 4, to 18, asking both questions each time you take up any.

Put down 18, 17, 16, 15, 14, 13, 12, 11, taking up of each number, and asking how many remain, and how many are missing or taken up?

XXXVIII.

Lay the counters before the child, and say, 2 and 9 are how many?

Let him count out 2 and 9, separately, and then put them together to find the answer. *Do the same in the three following lessons.*

2 and 10 are	4 and 7?	5 and 7?
how many?	4 and 8?	5 and 8?
3 and 8?	4 and 9?	5 and 9?
3 and 9?	4 and 10?	5 and 10?
3 and 10?	5 and 6?	

XXXIX.

6 and 5?	7 and 5?	8 and 5?
6 and 6?	7 and 6?	8 and 6?
6 and 7?	7 and 7?	8 and 7?
6 and 8?	7 and 8?	8 and 8?
6 and 9?	7 and 9?	8 and 9?
6 and 10?	7 and 10?	8 and 10?
6 and 11?	8 and 3?	8 and 11?
7 and 4?	8 and 4?	8 and 12?

9 and 8?	11 and 7?	12 and 8
9 and 9?	11 and 8?	
9 and 10?	11 and 9?	

XLII.

13 and 2?	14 and 3?	15 and 5
13 and 3?	14 and 4?	16 and 2
13 and 4?	14 and 5?	16 and 3
13 and 5?	14 and 6?	16 and 4
13 and 6?	15 and 2?	17 and 2
13 and 7?	15 and 3?	17 and 3
14 and 2?	15 and 4?	18 and 2

XLII.

Let the following numbers be counted out
at separate.

1 and 2 are	5 and 5?	9 and 9?
3 and 3?	6 and 6?	10 and 10?
4 and 4?	7 and 7?	
	8 and 8?	

4 and 4, and 4 more, that is, 3 times 4, are how many?

Continue to lay down 4 at a time until 5 times 4 are laid down.

5 and 5 and 5 more, that is, 3 times 5, are how many?

Keep the fives separate, and, putting down 5 more, say, 4 times 5 are how many?

Put down 6, and 6 more *separately*, ask how many they make, and then put down 6 more.

XLIII.

Put down 12 counters, and say,

12 are how many times 1? how many times 2? 3? 4? 6?

Be careful to require the child to separate the 12 counters into twos, threes, &c., that he may acquire a distinct idea of unities of 2, 3, &c., as well as the unity of 1. Do the same in the following similar exercises.

Put down 14 counters, and say,

14 are how many times 1? 2? 7?

Put down 15, and say,

15 are how many times 1? 3? 5?

Put down 16 counters, and say,

16 are how many times 1? 2? 4? 8?

Put down 18 counters, and say,

18 are how many times 1? 2? 3? 6?

Put down 20 counters, and say,

20 are how many times 1? 2? 4? 5? 10?

XLIV.

3 and 4 and 5 make how many?

4 and 5 and 6 are how many?

5 and 6 and 7 are how many?

6 and 7 and 7 are how many?

2 and 3 and 4 and 5 make how many?

and 3 and 3 and 5 and 2 are how many?

XLV.

5 and 4 and 3 are how many times 2?
 3 and 4 and 5 are how many times 3?
 3 and 5 and 3 are how many times 2?
 5 and 6 and 5 are how many times 4?
 4 and 5 and 6 are how many times 5?
 7 and 3 and 4 are how many times 7?
 3 and 2 and 6 are how many times 2?
 ny times 8?
 2 and 6 and 10 are how many times
 w many times 6?
 3 and 4 and 6 and 7 are how many ti
 5? 10?

XLVI.

11 beans separated into two numbers wi
 nd 10, 2 and 9, 3 and 8, 4 and 7, 5 and
 Let the first child separate the 11 into tw
 s, then the next child into two others,

XLVII.

11 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? Let each question be performed separately.

12 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11?

13 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12?

14 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13?

15 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14?

16 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14? 15?

17 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14? 15? 16?

18 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14? 15? 16?
17?

19 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14? 15? 16?
17? 18?

20 are how many more than 1? 2? 3? 4? 5?
6? 7? 8? 9? 10? 11? 12? 13? 14? 15? 16?
17? 18? 19?

This exercise may be varied now by reversing the question, and saying, 11 are how many more than 10? 9? 8? and down to 1?

12 are how many more than 11? 10? &c.

XLVIII.

1 is how many less than 11? 12? 13? 14?
15? 16? 17? 18? 19? 20?

2 are how many less than 11? 12? 13? 14?
15? 16? 17? 18? 19? 20?

3 are how many less than 11? 12? 13? 14?
15? 16? 17? 18? 19? 20?

16? 17? 18? 19? 20?
 are how many less than 11? 12? 13? 14? 15?
 17? 18? 19? 20?
 are how many less than 11? 12? 13? 14?
 16? 17? 18? 19? 20?
 1 are how many less than 12? 13? 14? 15?
 17? 18? 19? 20?
 2 are how many less than 13? 14? 15? 16?
 18? 19? 20?
 3 are how many less than 14? 15? 16? 17?
 19? 20?
 4 are how many less than 15? 16? 17? 18?
 20?
 5 are how many less than 16? 17? 18? 19?
 20?
 6 are how many less than 17? 18? 19? 20?
 7 are how many less than 18? 19? 20?
 8 are how many less than 19? 20?
 9 are how many less than 20?

XLIX.

If 6 pins be put into a pin-cushion with

5. 7 fingers and 4 fingers are how many more than you have on both hands?

6. A man gives 7 dollars for a hat, and 5 dollars for a pair of boots; how many dollars did the hat and boots together cost?

7. If 7 windows be on one side of a house, and 8 windows on the other side, how many windows will the house have?

8. If 7 squares of glass are broken in one window, and 9 squares in another, how many squares of glass are broken in both windows?

9. If you have 7 books with red backs, and 10 more with yellow backs, how many books have you in all?

10. If I lose 7 cents to-day, and lost 12 cents yesterday, how many cents have I lost in all?

L.

1. If 8 sticks be piled with 3 sticks, how many sticks will be in the pile?

2. If there are 8 children in one family, and 5 children in another family, how many children are in both families?

3. If a man has 8 sons and 7 daughters, how many children has he?

4. If you ride 8 miles to-day, and 9 miles to-morrow, how many miles will you ride in all?

5. If you play 8 minutes before school, and 12 minutes after school, how many minutes of play time have you?

6. If a pound of sugar cost 8 cents, and a potind of flour cost 8 more cents, how many cents will pay for the flour and sugar?

7. If 9 cents be given for a book, and 4 more for a pencil, how many cents will the book and pencil cost?

7. If you have 11 cents, and buy a
cents, and some quills for 3 cents, how m
ill be left?

8. If you have 11 cents, and spend 3
and 5 for candy, how many cents will
y apples with?

9. If 5 cents be given for tape, and 4 f
nd you have 12 cents, how many m
ave you than the tape and thread cost?

10. If I had 12 fingers, how many mo
have than I have now?

LIV.

1. 14 persons are in a room, but only
g down; how many are standing?

2. 6 persons die out of a family of 13
w many of the family are living?

3. 15 children are in a class, and the 7
t into a higher class; how many are
nd?

4. If you have 14 cents, and spend 5 fo
l 4 for prunes, how manv cents will L.

LII.

1. If you spend 5 cents for a book, 7 cents for a doll, and 8 cents for a whistle, how many cents do all cost ?

2. If you gave 4 cents for a box, 6 cents for having it painted, and 9 cents for a lock and key to it, how much did the whole cost ?

3. If you give 8 cents to one boy, 4 cents to another, and 7 cents to another, how many cents do you give away in all ?

4. In a school 6 scholars are reading, 5 are spelling, and 7 ciphering; how many scholars are there ?

5. 9 cats, and 7 dogs, and 3 horses, make how many animals in all ?

6. A father gives 8 cents to one child, 5 cents to another, and 7 cents to another; how many cents does he give away ?

7. A youth has lived 7 years in Boston, 7 years in Roxbury, and 4 years in Dorchester; how old is he ?

8. I had 5 cents, and found 6 more, and 8 were given to me; how many had I in all ?

9. If there are only 9 pear trees, 6 peach trees, and 5 apple trees in a garden, how many trees are in the garden ?

10. I have spent 5 dollars for clothes, 8 dollars for food, and 4 dollars for books; how many dollars have I spent in all ?

LIII.

1. If I have 11 cents, and spend 1, how many will be left ?

2. If a book cost 8 cents, and you have 11, how many cents will you have left ?

3. If 11 men are overturned in a boat, and only 2 are saved, how many will be drowned ?

men will you ride in all?

LI.

1. If one carriage will hold 10 persons and another 4 persons, how many persons will two carriages hold?

2. If one family consists of 10 persons and another of 6 persons, how many persons will two families?

3. If a boy catches 11 mice in one trap and 11 mice in another, how many mice are caught in two traps?

4. If one kettle holds 11 pails-full, and another holds 7 pails-full, how many pails-full will two kettles as big as both of them hold?

5. 12 large stones, and 5 small stones, make how many stones?

6. If you put 13 small sticks of wood in a pile with 6 large sticks, how many sticks of wood will be in the pile?

7. If you have 14 small pins, and 6 large pins, how many pins have you?

many did somebody else give him to make up the 13?

8. 16 persons are in a room; 6 are sewing, 7 reading, and the rest are doing nothing; how many are doing nothing?

9. 14 men agree to ride in 3 coaches; 4 get into one carriage, and 7 into another; how many get into the third?

LV.

1. If you buy of a man 16 cents' worth of silk, and give him 20 cents, how many cents must you have back?

2. If you buy 8 cents' worth of bread, and 7 cents' worth of milk, and give 20 cents in payment, how many cents will you have back?

3. If you give a man two 10 cent pieces, and tell him to give you 9 cents' worth of sugar, and 8 cents' worth of salt, and the rest in change, how many cents will he give you in change?

4. A boy is 13 years old, and his sister 18; how many years older is she than her brother?

5. A man had 19 miles to walk, but he has walked all but 5 of them; how many miles has he walked?

6. A man had to ride 20 miles in 3 hours; the first hour he rode 8 miles, the second 7 miles; and how many miles did he ride the third hour?

7. A man owes 20 dollars to 3 men; to the first he owes 9 dollars, to the second 5 dollars; and how many to the third?

8. 20 pounds of sugar are to be put into four boxes; three of the boxes will hold 13 pounds; how many pounds must the fourth box hold?

9. 19 girls are in three classes; the first class

2. If 1 lemon cost 3 cents, what will 2 cost? what will 3 cost? what will 4 cost?
3. If 1 book cost 7 cents, what will 2 books cost?
4. If 1 apple cost 2 cents, what will 5 cost? what will 7 cost?
5. If 1 quart of beans cost 5 cents, what will 2 quarts cost? what will 3 quarts cost?
6. If 1 pound of raisins cost 10 cents, what will 2 pounds cost?
7. If 1 ounce of nutmegs cost 9 cents, what will 2 ounces cost?
8. If a piece of tape cost 6 cents, what will 2 pieces cost? what will 3 pieces cost?
9. If a loaf of bread cost 6 cents, what will 2 loaves cost? 3 loaves? 4 loaves?
10. If an ounce of candy cost 4 cents, what will 2 ounces cost? 3 ounces? 4 ounces?
11. If 2 pounds of rice cost 9 cents, what will 4 pounds cost? 4 pounds as two pounds.

3. If 1 tree bears 7 bushels of apples, how many bushels would 2 such trees bear?

4. I spend 5 cents for pears, and 3 times as much for peaches? how many cents do I pay for the peaches? how much do I pay for both peaches and pears?

5. If your uncle and aunt and cousin each give you 6 cents, how many cents will you have?

6. If an apple has 2 halves, how many halves will 2 apples have? how many halves will 3 apples have? 4 apples? 5? 6? 7? 8? 9? 10?

7. How many quarters has an apple? how many quarters have 2 apples? 3 apples? 4? 5?

8. If you cut an apple in halves, and then cut the halves in two, how many pieces will there be? what will the 4 pieces be called?

If these 4 quarters be cut in two, how many pieces will there be?

It is desirable to have the last three sums explained by cutting up an apple before the eyes of the children.

LVIII.

1. Divide 12 apples between 2 boys, and how many will each boy have?

2. Divide 12 apples between 3 boys, and how many will each boy have?

3. Divide 12 apples between 4 girls, and how many will each have?

4. Divide 14 apples between 2 boys, and how many will each have?

5. A man divides 14 apples between 7 of his children; how many will they have apiece?

6. 16 cents were given to two poor boys; how many cents is that for each boy?

7. 16 pounds of butter are put into 4 boxes;

10. 2 loaves of bread cost 18 cents; did 1 loaf cost at that rate?

11. 3 books cost 18 cents; how cost at that rate? how much did 2 cost?

12. 18 persons are in 9 chaises; how many will be in each chaise?

13. If 3 boys ride in 1 chaise, how many will 18 boys fill?

LIX.

1. If 20 men ride in 2 coaches, how many in each coach?

2. If a man pay 20 cents for some apples and 2 cents apiece, how many apples can he buy?

3. 20 cents are put into 4 equal piles; how many cents are there in each pile?

4. 20 cents were put into 5 equal piles; how many cents must be in each pile?

5. Your brother has 12 apples, and you have half of them; how many does he give you?

6. I owe a boy 14 cents, and now

11. 8 quarters of a dollar make how many whole dollars?

12. 3 whole dollars are how many quarters of a dollar? how many halves?

LX.

1. 11 apples, divided between 2 boys, will give them how many apiece?

The child may be puzzled; therefore say, each may have 5 whole ones, and then there will be 1 whole one left to be divided between them. 1 apple, divided between 2 boys, will give each a half of an apple, so that each boy will have 5 apples and a half. It is best to procure an apple, and cut it up, and then save it, to illustrate question sixth of this lesson.

2. If 13 oranges be divided between 2 boys, how many will each boy have?

3. If 15 oranges be put into 2 baskets, how many will there be in each basket?

4. If 17 dollars are given for 2 barrels of flour, how many dollars is that for 1 barrel?

5. Of 19 shoes, how many even pairs can you make? what part of a pair is the odd shoe?

6. If 13 apples be divided between 4 boys, how many apples will each have?

The child will find that each boy may have 3 whole apples; then say, 1 apple is left, and this is to be divided between the 4 boys. An apple, cut into 4 parts, will allow a quarter to each boy, and each boy will have 3 whole apples, and one quarter of an apple.

7. Divide 14 apples between 4 girls.

The 2 odd apples must be equally divided between the 4 girls. 1 apple divided between 4 girls, will give a quarter of an apple to each. 2 apples divided among 4 girls, will give each 2

child will give 3 whole apples to each boy, there will be 3 apples left to be divided among the 4 boys. You have already seen that 1 apple, divided among 4, will give 1 quarter to each boy, and another apple will give another quarter to each boy, and the third apple will give another quarter, so that, besides the 3 whole apples, there will be three quarters of an apple for each boy. Divide 17 apples between 4 boys, and how many will each have?

4 boys wish to divide 18 oranges between them. How must they do it, and how many oranges will each have?

If you wish to put 19 pounds of butter into 4 tins, how many pounds must be put into each tin, so that each has as much in one as in another?

Divide 14 dollars between 4 men.

A father gave 15 apples to 4 of his children. How many apples did each have?

4 boys found 18 dollars, and without finding the owner, as honest boys would do, they shared the money equally: how much

one half as large weigh? what will one a quarter as large weigh?

3. If a pound of sugar cost 8 cents, how much will a pound and a half cost? how much will a pound and a quarter cost?

4. If a pound of coffee cost 8 cents, how much will a quarter of a pound cost? 2 quarters, or a half? 3 quarters? a pound and a quarter? a pound and 2 quarters, or a half? a pound and 3 quarters? 2 pounds?

5. If a quarter of a pound of almonds cost 4 cents, how much will 2 quarters, or half a pound, cost? how much will 3 quarters cost? how much will a whole pound cost? how much will a pound and a quarter cost?

6. If a quart of beer cost 10 cents, what will half a quart, or a pint, cost? what will a quart and a half cost? what will 2 quarts cost?

7. If a gallon of wine cost 1 dollar, what will half a gallon cost? what will a quarter of a gallon cost? what will a gallon and a half cost? what will 6 gallons cost? what will 12 gallons cost?

8. A boy is 8 years old; how old will he be when he is as old again as he is now? how old will he be when he is half as old again?

time, if the child has not learned to count 100, he may be taught by the same method with the two first tens, which, in this case;—Lay 10 counters on the table, and more, separately; the child knows that ten tens make 20. Then lay down 1 to new ten, and call it two tens and 1, or go on till you have laid down another ten, and you will say, there are three tens, or 30. Then lay down 10 tens separate, and go on to 40, &c. As the child has nothing to learn but the names of the tens, he may be taught to say the following

One ten is ten.	Six tens are sixty.
Two tens are twenty.	Seven tens are seventy.
Three tens are thirty.	Eight tens are eighty.
Four tens are forty.	Nine tens are ninety.
Five tens are fifty.	Ten tens are a hundred.

7. 8 tens and 2 tens are how many tens?
8. 9 tens and 1 ten are how many tens?
9. Take 2 tens from 10 tens, or a hundred, and how many tens will be left?
10. Take 3 tens, 4 tens, 5 tens, 6 tens, 7 tens, 8 tens, 9 tens, from a hundred or ten tens, and how many tens will be left?
11. 10 and 20 and 1 are how many?
12. 20 and 30 and 2 are how many?
13. 30 and 10 and 3 are how many?
14. 40 and 50 and 4 are how many?
15. 50 and 40 and 5 are how many?
16. 60 and 40 and 6 are how many?
17. 70 and 20 and 7 are how many?
18. 80 and 20 and 8 are how many?
19. 90 and 10 and 9 are how many?

LXIII.

UNITED STATES' MONEY.

Ten Milles make one Cent.

Ten Cents make one Dime.

Ten Dimes make one Dollar.

Ten Dollars make one Eagle.

There is no coin called a *mille*,* and *Half-cents* are rarely seen. Cents are made of *copper*; Dimes, *Half-Dimes*, Dollars, *Half-Dollars*, and Quarters of a Dollar are of *silver*; Eagles, *Half-Eagles*, and *Quarter-Eagles* are made of *gold*.

All the coins in use should be shown to children, and they should be required to buy and sell articles, so as to become accustomed to making change.†

* The author prefers this orthography because *mill* has another meaning, and *mille* denotes both the *origin* and *meaning* of the word. *Mille* is the Latin word for a thousand, and 1000 milles make a dollar.

† Paper coins may be made by laying writing paper over

Two shillings and a half make a quarter.

A four-pence-half-penny is a small foreign coin, worth six cents and a quarter.

A ninepence is also a foreign silver coin, worth twelve cents and a half.

The teacher will see that the following in the *Tables* may be indefinitely extended.

LXIV.

1. How many *milles* are there in 1 cent?
? 4? 5? 6? 7? 8? 9 cents?

As many times ten milles as there are single cents.

2. How many *cents* are there in 1 dime?
? 4? 5? 6? 7? 8? 9 dimes?

As many times ten cents as there are single dimes.

3. How many *dimes* are there in 1 dollar?
? 4? 5? 6? 7? 8? 9 dollars?

As many times ten dimes as there are single dollars.

4. How many *dollars* are there in 1 eagle?
? 4? 5? 6? 7? 8? 9 eagles?

2. How many cents are 2 nine-pences?
3. How many nine-pences make a quarter of a dollar?
4. How many four-pence-half-pennies make a quarter of a dollar?
5. If 2 nine-pences make one quarter of a dollar, how many make 2 quarters or half a dollar? three quarters of a dollar? how many nine-pences make a dollar?
6. How many four-pence-half-pennies are in one nine-pence? how many in a quarter of a dollar? in a half-dollar? in three quarters of a dollar? how many are in a dollar?
7. How many dimes make a half-dollar?
8. How many half-dimes make a whole dime? 2 dimes? 3? 4? 5?
9. How many half-dimes make one quarter of a dollar? two quarters? three quarters? a whole dollar?

LXVI.

1. An eagle is how many dollars?
2. A half-eagle is how many dollars?
3. A quarter-eagle is how many dollars?
4. A dollar is how many dimes? how many half-dollars? how many quarters? how many nine-pences? how many four-pence-half-pennies? how many half-dimes?
5. How many half-dollars are there in 1 dollar? in 2? 3? 4? 5 dollars?
6. How many quarters of a dollar are there in 1? 2? 3? 4? 5 dollars?
7. How many cents are there in 1 four-pence-half-penny? in 2? 3? 4?
8. How many cents are there in 1 nine-pence? in 2? 3? 4? 5? 6? 7? 8?
9. How many nine-pences are there in a half-

1. If I buy a book for a nine-pence the bookseller a quarter of a dollar, 1 cents must he give me in change?

2. If I buy two pictures at two dir and give half a dollar, how much must back in change?

3. If a pound of butter cost 30 cents, two quarters of a dollar, what change n back?

4. If a book cost 60 cents, how much a dollar is that?

5. If I buy eight pies at a dime apiec the pie-seller a dollar; how many cent give me back?

6. If you are to have nine-pence a we many weeks will you have three que dollar?

7. If a laboring man can earn 20 cer how many hours will it take him to ear how many cents will he earn in 6 hour

Names of the days of the week, in their order :—

1. Sunday. 2. Monday. 3. Tuesday. 4. Wednesday. 5. Thursday. 6. Friday. 7. Saturday.

Names of the months, in their order :—

<i>Order.</i>	<i>Month.</i>	<i>Days.</i>	<i>Order.</i>	<i>Month.</i>	<i>Days.</i>
1st,	January,	31	7th,	July,	31
2d,	February, 28 or 29		8th,	August,	31
3d,	March,	31	9th,	September,	30
4th,	April,	30	10th,	October,	31
5th,	May,	31	11th,	November,	30
6th,	June,	30	12th,	December,	31

The number of days in each month may be found in the above table, but will be better recollected in the following rhyme :—

Thirty days has September,
 April, June, and November;
 All the rest have thirty-one,
 Excepting Feb-ru-a-ry alone,
 Which has twenty-eight, nay, more,
 Has twenty-nine year in four.

LXIX.

1. How many minutes are in an hour? how many in half an hour? how many in a quarter of an hour? how many in three quarters of an hour?

2. How many hours in a day? how many in half a day? how many in 2 days?

3. How many days in a week? in 2 weeks? in 3 weeks? in 4 weeks?

4. How many weeks in a year? in half a year? in a quarter of a year?

5. If a man earns a dollar a day, how much will he earn in a week? how much in 2 weeks? 3 weeks? 4 weeks?

6. If a man earn 10 dollars a month, how many dollars will he earn in 2 months? 3 months? 4?

ound is 16 ounces, how many
a pound? how many a quarter? how
2 pounds? how many a pound and a

ound of sugar cost 16 cents, how much
ounce? how much for half a pound?
for a quarter? how much for 2 pounds?

LXXI.

LIQUID MEASURE.

ills make one pint.

ints make one quart.

uarts make one gallon.

-one and a half gallons make one barrel.

arrels, or sixty-three gallons, make one

ngsheads make one pipe.

ipes make one tun.

*gills make 1 pint, how many gills will
ints, or 1 quart?*

gills make 1 quart, how many gills will

quart, or quarter of a gallon, cost? how much will 3 quarts cost? how much will half a quart, or pint. cost? how much will a gill cost?

LXXII.

MEASURE OF LENGTH.

*Ten tenths make one inch.**

Twelve inches make one foot.

Three feet make one yard.

Five and a half yards make one rod.

Forty rods make one furlong.

Eight furlongs make one mile.

Three furlongs make one league.

1. In 1 inch how many tenths? how many in 2 inches? 3? 4? 5?

2. In 1 inch how many halves? how many quarters?

3. How many halves in 2 inches? in 3?

4. How many quarters in 2 inches? in 3?

5. How many inches in a foot? in half a foot? in a quarter of a foot?

6. How many inches in 2 feet? 3 feet, or 1 yard?

7. How many feet in 2 yards? 3 yards?

8. If a quarter of a yard cost 5 dollars, what will a whole yard cost? what will half a yard cost? what will 2 yards cost?

9. If an inch of chain cost 2 cents, what will a foot of it cost? what will half a foot, or 6 inches, cost?

LXXIII.

MEASURE OF CLOTH.

Two and a quarter inches make one nail.

Four nails, or nine inches, make one quarter of a yard.

Four quarters of a yard make a whole yard.

*Barley-corns are never used. Tenths of inches are not

. yard of cloth cost 10 dollars, what will a quarter of a yard cost? what will a quarter of a yard

. quarter of a yard of muslin cost 10 cents.
11 half a yard cost? what will a whole
t? what will 2 yards cost? what will a
l a half cost?

it takes 3 yards and a half of linen to
shirt, how many yards will it take to
shirts? to make 4 shirts?

ve given exercises on the most common' rules,
mits of our little work will not admit of our doing
others. As, however, children under seven years
n easily learn such tables, they are annexed.

ENGLISH MONEY.

4 pence make 1 penny.
20 pence make 1 shilling,
20 shillings make 1 pound.

TROY WEIGHT.

24 grains make 1 pennyw't
20 pennyw't. make 1 ounce
12 ounces make 1 pound.

MEASURE.

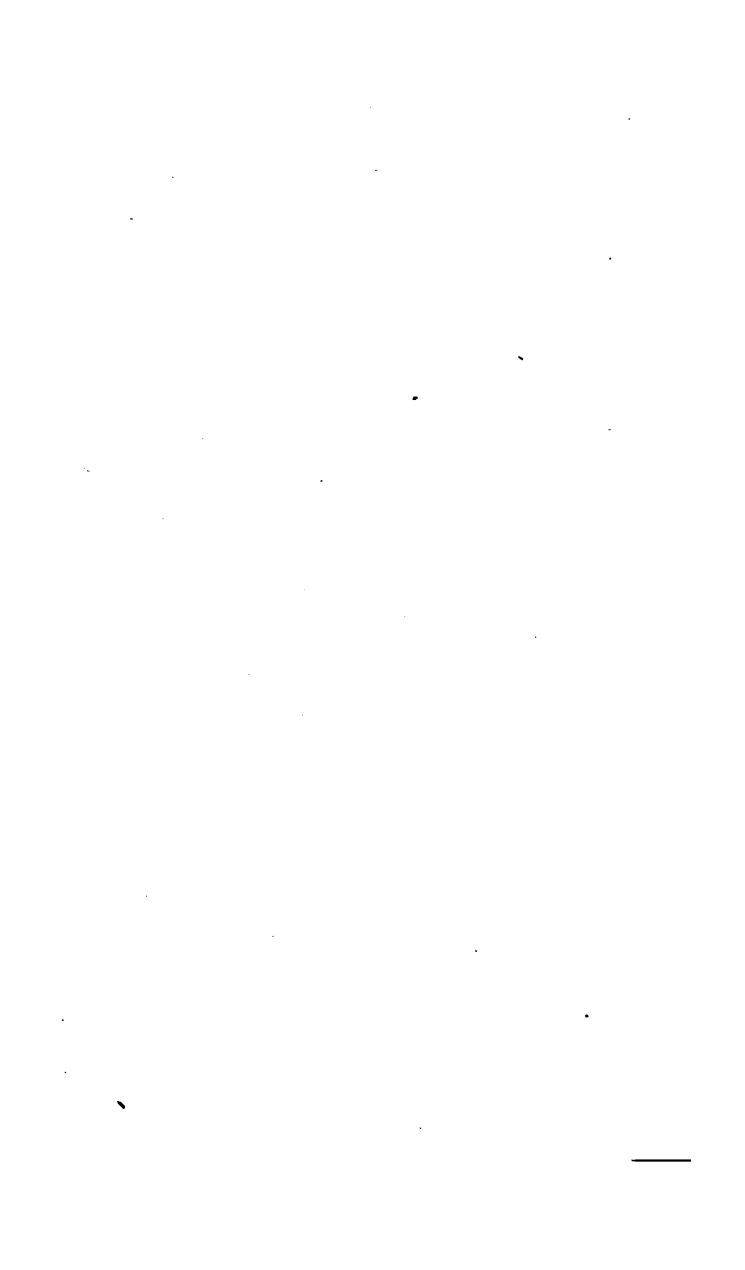
12 single things, one dozen
12 dozen make a gross.
24 sheets make a quire.

MULTIPLICATION TABLE

twice 1 are 2	5 times 1 are 5	8 times 1 are 8
twice 2 are 4	5 times 2 are 10	8 times 2 are 16
twice 3 are 6	5 times 3 are 15	8 times 3 are 24
twice 4 are 8	5 times 4 are 20	8 times 4 are 32
twice 5 are 10	5 times 5 are 25	8 times 5 are 40
twice 6 are 12	5 times 6 are 30	8 times 6 are 48
twice 7 are 14	5 times 7 are 35	8 times 7 are 56
twice 8 are 16	5 times 8 are 40	8 times 8 are 64
twice 9 are 18	5 times 9 are 45	8 times 9 are 72
twice 10 are 20	5 times 10 are 50	8 times 10 are 80
twice 11 are 22	5 times 11 are 55	8 times 11 are 88
twice 12 are 24	5 times 12 are 60	8 times 12 are 96
3 times 1 are 3	6 times 1 are 6	9 times 1 are 9
3 times 2 are 6	6 times 2 are 12	9 times 2 are 18
3 times 3 are 9	6 times 3 are 18	9 times 3 are 27
3 times 4 are 12	6 times 4 are 24	9 times 4 are 36
3 times 5 are 15	6 times 5 are 30	9 times 5 are 45
3 times 6 are 18	6 times 6 are 36	9 times 6 are 54
3 times 7 are 21	6 times 7 are 42	9 times 7 are 63
3 times 8 are 24	6 times 8 are 48	9 times 8 are 72
3 times 9 are 27	6 times 9 are 54	9 times 9 are 81
3 times 10 are 30	6 times 10 are 60	9 times 10 are 90
3 times 11 are 33	6 times 11 are 66	9 times 11 are 99
3 times 12 are 36	6 times 12 are 72	9 times 12 are 108
4 times 1 are 4	7 times 1 are 7	10 times 1 are 10
4 times 2 are 8	7 times 2 are 14	10 times 2 are 20
4 times 3 are 12	7 times 3 are 21	10 times 3 are 30
4 times 4 are 16	7 times 4 are 28	10 times 4 are 40
4 times 5 are 20	7 times 5 are 35	10 times 5 are 50
4 times 6 are 24	7 times 6 are 42	10 times 6 are 60
4 times 7 are 28	7 times 7 are 49	10 times 7 are 70
4 times 8 are 32	7 times 8 are 56	10 times 8 are 80
4 times 9 are 36	7 times 9 are 63	10 times 9 are 90
4 times 10 are 40	7 times 10 are 70	10 times 10 are 100
4 times 11 are 44	7 times 11 are 77	10 times 11 are 110
4 times 12 are 48	7 times 12 are 84	10 times 12 are 120

times 9 are 99	12 times 9 are 108
times 10 are 110	12 times 10 are 120
times 11 are 121	12 times 11 are 132
times 12 are 132	12 times 12 are 144

3	4	5	6	7	8	9	10	11	12
6	8	10	12	14	16	18	20	22	24
9	12	15	18	21	24	27	30	33	36
12	16	20	24	28	32	36	40	44	48
15	20	25	30	35	40	45	50	55	60
18	24	30	36	42	48	54	60	66	72
21	28	35	42	49	56	63	70	77	84
24	32	40	48	56	64	72	80	88	96
27	36	45	54	63	72	81	90	99	108
30	40	50	60	70	80	90	100	110	120
33	44	55	66	77	88	99	110	121	132
36	48	60	72	84	96	108	120	132	144





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